

## VERSION WITH MARKINGS TO SHOW CHANGES MADE

### THE ABSTRACT

The Abstract has been amended as follows:

#### PRACTICE PROJECTILE WITH SMOKE SIGNATURE

#### ABSTRACT OF THE INVENTION

A new projectile design for the M224 Mortar gun system that is ballistically similar to the M720 high explosive mortar cartridge. The present design compensates for the realistic hands-on practice cartridges, and allows for the release of flame or smoke and bang upon impact to simulate a successful deployment of the tactical cartridge. The projectile design not only balances the weight deficiency due to the removal of the explosive fills, but also improves conventional method of releasing a smoke signature as in other full and short range practice cartridges. The projectile includes three main components: a center vent tube, a plurality of vent holes, and a plurality of vent plugs. [The center vent tube compensates for the physical properties of the tactical mortar cartridge and provides a passage for an efficient release of smoke upon a fuze function. The vent holes are positioned at the rear end of the projectile body to sufficiently release pressure, flame and smoke upon a fuze function. The vent plugs seal the vent holes to protect the interior of the projectile during storage, handling, and launching.]

### THE SPECIFICATION

The paragraph at page 5, lines 6 - 14 has been changed as follows:

-- FIG. 1 is a cross-sectional view of the 60 mm, M769 Full Range mortar cartridge, or projectile 100, which is designed to be ballistically matched or similar to the tactical 60 mm, M720 HE mortar cartridge. With further reference to FIG. 2, the projectile 100 is generally comprised of the following components: a projectile body 1; a fuse 2; an obturator ring 3 (FIG. 2); a center vent tube 4; a plurality of vent holes 5 (more clearly illustrated in FIG. 3); a plurality of vent plugs 6; propellant charges 7; and a boom/fin/ignition cartridge assembly 8, which is also referred to herein as boom assembly 8.--

The paragraph at page 6, lines 4 - 8 has been changed as follows:

-- The propellant charges 7 can also be the same components as the tactical round M720 HE. The boom/fin/ignition cartridge assembly [20] 8 is designed to provide dynamic stability during airborne operation. In addition, the boom assembly is there for holding ignition cartridge and propellant charges.--

The following paragraph has been added at page 6, line 26:

-- The fuze 2 has an elongated stepped shape comprised of a forward end 101, an intermediate step 102, and a narrower rearward step 103. The rearward step 103 defines an edge 112 with the intermediate step 102. The center vent tube 4 has a forward edge 110, such that when the projectile 100 is assembled, the rearward step 103 fits inside the center vent tube 4, with the forward edge 110 abutting edge 112 to secure the center vent tube 4 to the fuze 2.--

## **THE CLAIMS**

Claims 2, 9 and 10 have been canceled without prejudice.

Claims 1, 3, 5 have been amended as follows:

1. (Amended) A projectile for use with a gun system, comprising:  
a fuze;  
a projectile body including an open front end and a closed rear end;  
wherein the front end of the projectile body is secured to the fuze;  
a boom assembly secured to the closed end of the projectile body;  
a center vent tube having a forward end that is secured to the fuze [and seal], and a  
rearward end that abuts against the rear end of the projectile body [and seal], to form a  
smoke chamber and to provide added weight to control a center of gravity of the  
projectile; [and]

wherein the rear end of the projectile body includes at least one normally closed vent  
hole in communication with the smoke chamber; and  
at least one vent plug that fits in the vent hole closing it; that is unplugged from the  
projectile body upon function of the fuze, to allow smoke that accumulates inside the  
smoke chamber to be released; and that provides an indication of a dud.

3. (Amended) The projectile according to claim [2] 1, wherein the at least one vent  
hole includes a plurality of vent holes.

5. (Amended) The projectile according to claim 3, further comprising a plurality  
[wherein the equal number] of vent plugs that fit in the [to the number of] vent holes  
[presented].

New claims 11-14 have been added:

--11. (New) The projectile according to claim 8, wherein the center vent tube is  
mounted along an axial length of the projectile body.

12. (New) The projectile according to claim 11, wherein the fuze has an elongated stepped shape comprised of a forward end, an intermediate step, and a narrower rearward step.

13. (New) The projectile according to claim 12, wherein the rearward step defines an edge with the intermediate step.

14. (New) The projectile according to claim 13, wherein the center vent tube has a forward edge, such that when the projectile is assembled, the rearward step fits inside the center vent tube, with the forward edge abutting the edge defined between the rearward step and intermediate step, to secure the center vent tube to the fuze. - -

### CONCLUSION

All the claims presently on file in the present application are in condition for immediate allowance, and such action is respectfully requested. If it is felt for any reason that direct communication would serve to advance prosecution of this case to finality, the Examiner is invited to call the undersigned at the below-listed telephone number.

Respectfully submitted,

Date: 10/22/2003

*Michael C. Sachs*  
Michael Sachs  
Attorney for Applicants  
Reg. No. 29,262  
Tel. (973) 724-6595